PY G192.2 K44s

A Keystone Species of the Keystone State

PENNSYLVANIA GAME COMMISSION 1895

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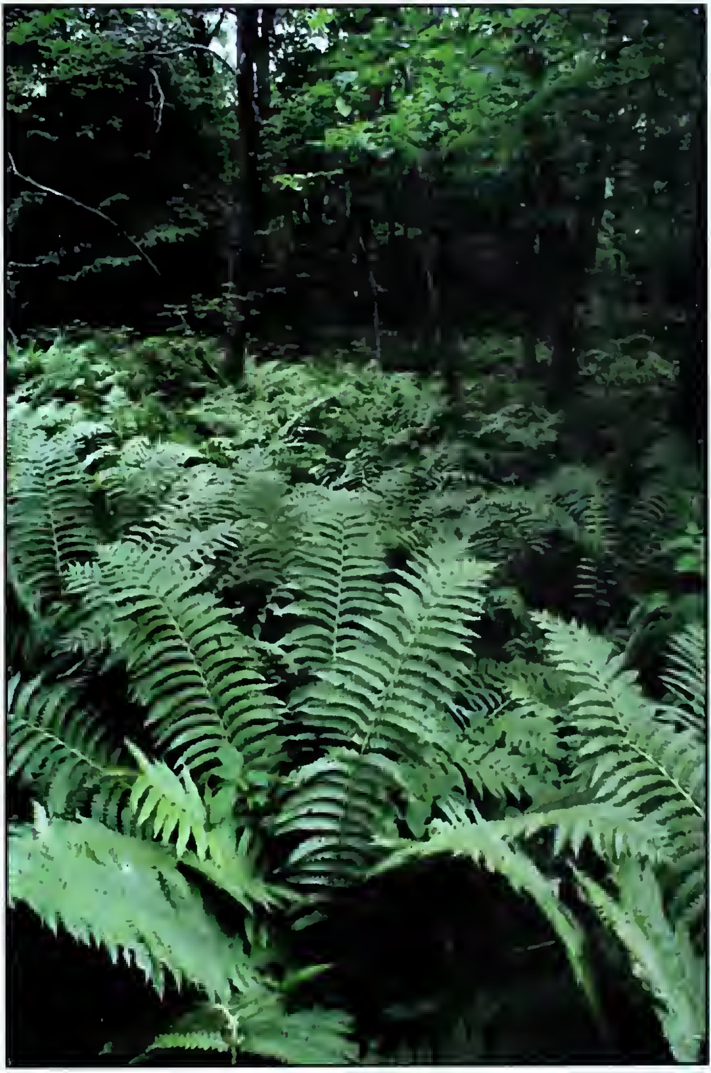
WHITE-TAILED DEER are a natural and vital part of Pennsylvania forests. They can even be classified as a keystone species. A keystone species is one that has a dominating influence on the composition of a community. It can completely shift the character of a habitat. For example, beavers cause a shift in the character of the habitat by essentially de-

Deer feed on plants up to a height of about six feet, which they reach standing on their hind legs. If there are too many deer, they will over-browse the vegetation creating a visible difference in the amount of "green" above versus below the whitetail's six-foot reach, commonly called the "browse line." In this photo, the only thing left in the understory is unpalatable ferns.



stroying one type of habitat and creating a wetland habitat in its place.

Deer are considered a keystone species, not because of their ability to create habitat, but because of their ability to cripple a forest ecosystem.

Deer are considered a keystone species, not because of their ability to create habitat, but because of their ability to cripple a forest ecosystem. Deer are herbivores. To be more precise, deer are browsers, which means that their primary food is the new growth on trees and shrubs. Deer, like people, have preferred foods and will select those they like first. After all the preferred plants are gone, deer will then move on to those they like less. When deer are allowed to over-browse an area, nothing is created in its place. A void is created. Deer, unlike most other wildlife species, have a direct effect on the quality of the habitat in which they live because they consume the vegetation that is their habitat.

That forest community is shared by hundreds of other species of game and non-game wildlife, so how deer are managed has a significant impact on other wildlife populations because of what and how much they eat.

Deer feed on plants from the forest floor up to a height of about six feet, which they reach by standing on their hind legs. If there are too many deer in an area for the amount of available food, they will over-browse the vegetation. In such areas, deer have eaten so much of the understory that as you look through a forest you can see the difference in the amount of "green" above versus below the whitetail's six-foot reach, commonly called the "browse line."

The problem with a devoured understory is that many other wildlife species depend on that area below the "browse line" and on those specific plants that deer prefer to consume. When

A 2001 survey by Responsive Management, an independant research firm, found 9 out of 10 hunters agreed that managing game to promote healthy habitat for ALL wildlife species should be an extremely or very important consideration in wildlife management.

A 2002 Game Commission survey found that a majority of deer hunters agreed that deer affect plants and animals, and 9 out of 10 hunters agreed that deer populations should be balanced with natural food supplies.

deer numbers are properly managed and deer do not over-browse the forest, many species of wildlife can and will continue to co-exist with deer. But when deer destroy or remove a critical component of any habitat, it can change environmental conditions that many species — including deer — count on for their very existence.

An Allegheny National Forest study showed deer over-browsing had the greatest effect on intermediate canopy-nesting birds. The study noted that species such as indigo buntings and eastern wood pewees disappeared from the forest when deer densities got too high. Why is that a problem? Consider the diet of these and other birds that depend on the area below the browse line. It often consists of insects and caterpillars like gypsy moths and other insect pests that are potentially destructive to our forests and your backyard shade trees. So, while deer are not actually feeding on other species of wildlife, their effect on the ability of other wildlife to live and survive and, to a certain extent, control harmful pests, can be tremendous.

Should we care if some species of birds or mammals cannot survive in the forest because of the impacts that deer have made? Will anyone even notice if we no longer have least flycatchers, yellow-billed cuckoos or ruffed grouse? Whether anyone notices or not, it is something no one should ignore. Every day we seem to discover another way in which species are connected to each other. But of how many other connections are we unaware? If one species disappears, it may affect things we don't even understand yet. How many species should we allow to disappear before we say, "Ok, that's enough!" One, two…twenty?

Understanding the impacts of deer on the world around you may depend on your point of view. But, whatever your opinion, all Pennsylvanians share the responsibility to be wise stewards of the wildlife resource. Not everyone is thrilled by the sight of an eastern phoebe and many would rather see lots of deer while hunting, but it is critical that we all recognize the role that other wildlife species play in our forest communities. Maintaining and protecting that biodiversity is the responsibility of every Pennsylvanian.

For more information about deer management visit www.pgc.state.pa.us and click the *Deer Program* Quick Click in the right column.

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